## APPENDIX A

1. A mutant mammalian G-protein coupled receptor having a sequence which varies from a wild type G protein-coupled receptor having a wild type amino acid sequence comprising an amino acid motif [$X_1X_2X_3X_4$] lying near the carboxy terminal end of said domain, wherein:

$X_1$ denotes an amino acid residue at position 1 of said motif and is selected from the group consisting of Phe, Leu, Val, and Tyr;

$X_2$ denotes an amino acid residue at position 2 of said motif and is selected from the group consisting of Phe, Lys and Gln;

$X_3$ denotes an amino acid residue at position 3 of said motif and is selected from the group consisting of Leu, Arg, Glu, Asn, Gln, Ser, Ala, Leu ; and

$X_4$ denotes an amino acid residue at position 4 of said motif and is selected from the group consisting of Ala, Cys, Asp, Glu, Gly, Ser, Thr and Tyr; and

wherein said mutant receptor comprises a seventh transmembrane domain with a carboxy terminal end;

at least one point mutation at a position in said amino acid motif;

such that upon interaction with a ligand to modulate a signal transduction pathway in a cell, a signal generated by said mutant receptor is greater than a signal generated upon interaction of said ligand with a wild type G protein-coupled receptor.

2. The receptor of claim 1, wherein said cell is a yeast cell.

3. The receptor of claim 2, wherein said receptor acts as a surrogate for an endogenous yeast pheromone receptor in a pheromone response pathway of said cell.

4. The receptor of claim 2, wherein said cell belongs to the species *Saccharomyces cerevisiae*.

5. The receptor of claim 1, wherein said cell is a mammalian cell.

6. The receptor of claim 1, wherein said receptor containing said amino acid motif with no point mutation thereon generates no detectable signal.

7. The receptor of claim 1, wherein said point mutation comprises mutagenization at position 4 of said amino acid motif to Arg or to Lys.

8. The receptor of claim 1, comprising an IL8A receptor.

9. The receptor of claim 8, wherein said point mutation is selected from the group consisting of : Arg to Trp at position 73, Met to Ile at position 246; and Gly to Arg at position 320.

10. The receptor of claim 8, wherein said ligand is interleukin 8 (IL8) or melanoma growth-stimulating activity-alpha (MGSA/GROα).

11. The receptor of claim 1 comprising a human receptor.

12. The receptor of claim 11 selected from the group consisting of human galanin-1 receptor, somatastatin receptor type I, somatastatin receptor type II, somatastatin receptor type III, and human nociceptin receptor.

13. The receptor of claim 12, which is human galanin-1 receptor.

14. The receptor of claim 13, comprising an amino acid sequence LAYSNSSVNPIIYAFLSEN[FRK**R**]YKQV wherein said mutant amino acid motif within said sequence is [FRK**R**].